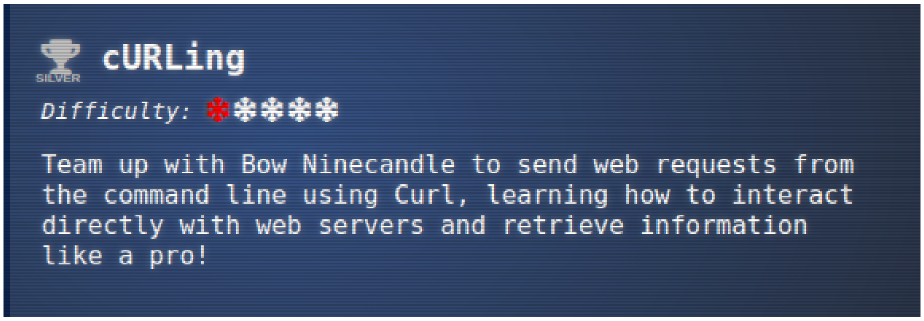
## Objective “cURLing”



SILVER

cURLing

*Difficulty:* ❄❄❄❄❄

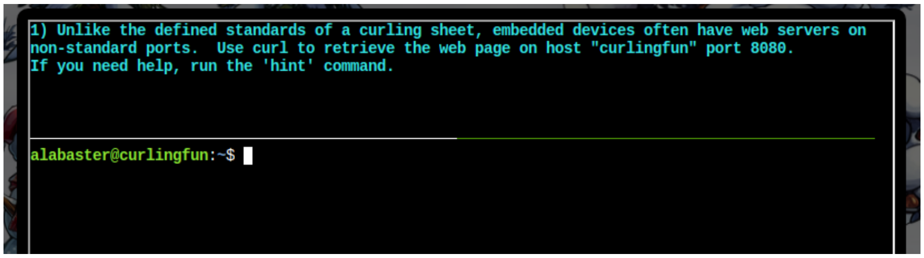
Team up with Bow Ninecandle to send web requests from the command line using Curl, learning how to interact directly with web servers and retrieve information like a pro!

### Location

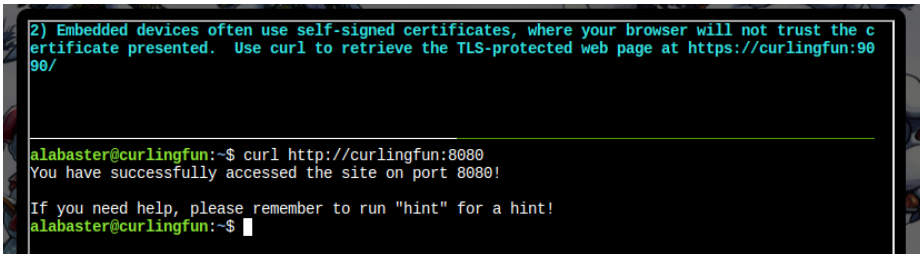
North Pole Monitoring Station

### Task and Solution

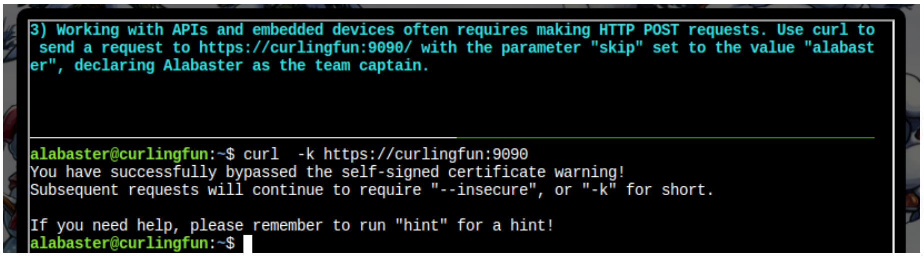
The task is getting to know the CLI tool “curl” and its features



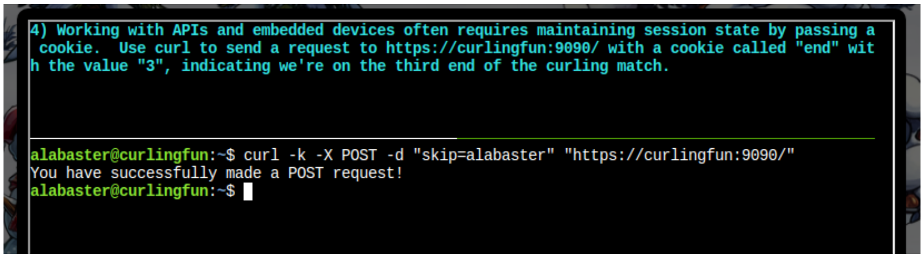
```
1) Unlike the defined standards of a curling sheet, embedded devices often have web servers on
non-standard ports.  Use curl to retrieve the web page on host "curlingfun" port 8080.
If you need help, run the 'hint' command.

alabaster@curlingfun:~$
```



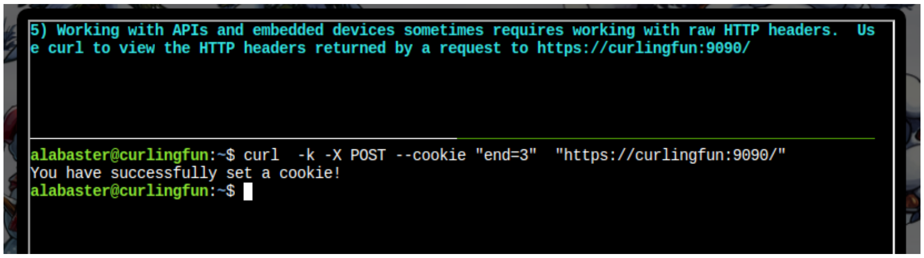
```
2) Embedded devices often use self-signed certificates, where your browser will not trust the c
ertificate presented.  Use curl to retrieve the TLS-protected web page at https://curlingfun:90
90/

alabaster@curlingfun:~$ curl http://curlingfun:8080
You have successfully accessed the site on port 8080!

If you need help, please remember to run "hint" for a hint!
alabaster@curlingfun:~$
```



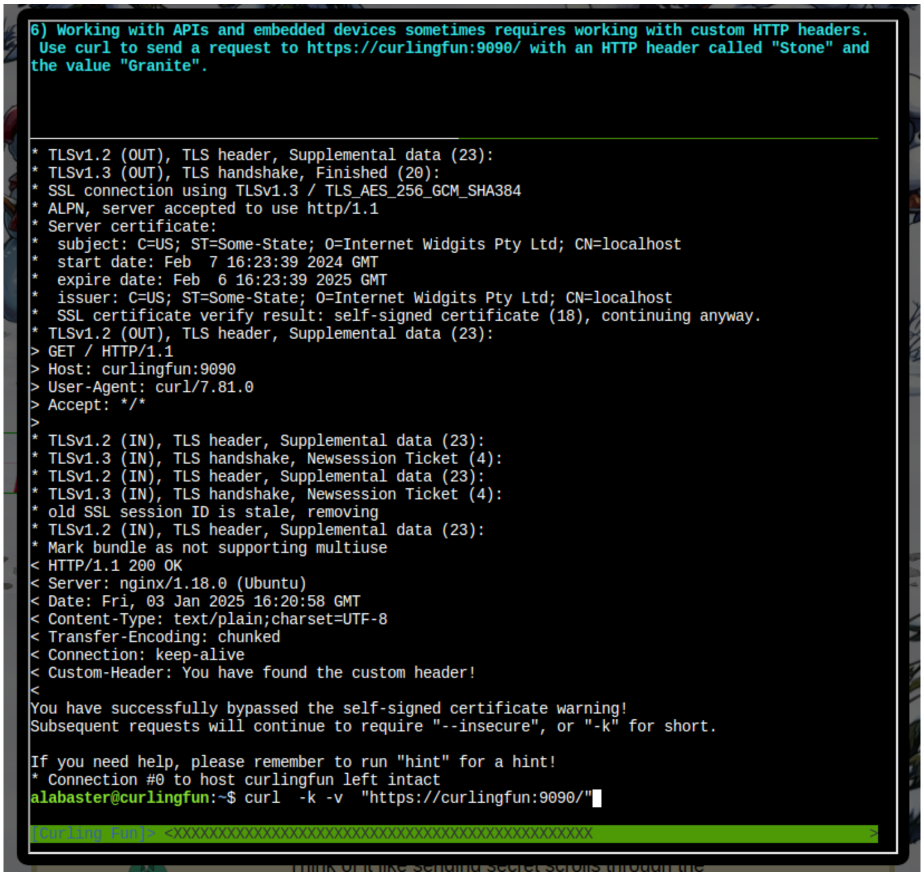
```
3) Working with APIs and embedded devices often requires making HTTP POST requests. Use curl to
 send a request to https://curlingfun:9090/ with the parameter "skip" set to the value "alabast
er", declaring Alabaster as the team captain.

alabaster@curlingfun:~$ curl  -k https://curlingfun:9090
You have successfully bypassed the self-signed certificate warning!
Subsequent requests will continue to require "--insecure", or "-k" for short.

If you need help, please remember to run "hint" for a hint!
alabaster@curlingfun:~$
```



```
4) Working with APIs and embedded devices often requires maintaining session state by passing a
 cookie.  Use curl to send a request to https://curlingfun:9090/ with a cookie called "end" wit
h the value "3", indicating we're on the third end of the curling match.

alabaster@curlingfun:~$ curl -k -X POST -d "skip=alabaster" "https://curlingfun:9090/"
You have successfully made a POST request!
alabaster@curlingfun:~$ 
```

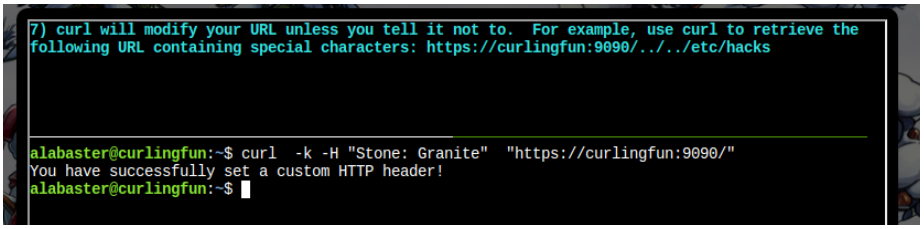


```
5) Working with APIs and embedded devices sometimes requires working with raw HTTP headers.  Us
e curl to view the HTTP headers returned by a request to https://curlingfun:9090/

alabaster@curlingfun:~$ curl  -k -X POST --cookie "end=3"  "https://curlingfun:9090/"
You have successfully set a cookie!
alabaster@curlingfun:~$ 
```

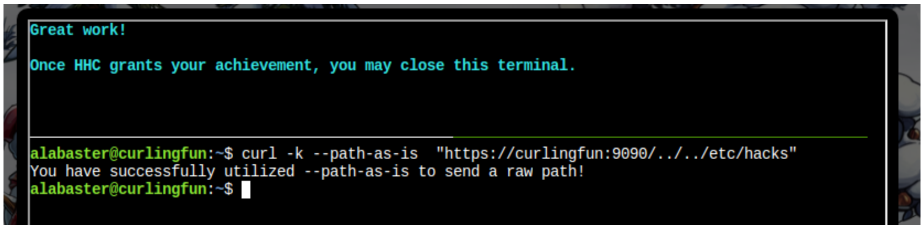


```
6) Working with APIs and embedded devices sometimes requires working with custom HTTP headers.
 Use curl to send a request to https://curlingfun:9090/ with an HTTP header called "Stone" and
the value "Granite".

* TLSv1.2 (OUT), TLS header, Supplemental data (23):
* TLSv1.3 (OUT), TLS handshake, Finished (20):
* SSL connection using TLSv1.3 / TLS_AES_256_GCM_SHA384
* ALPN, server accepted to use http/1.1
* Server certificate:
*  subject: C=US; ST=Some-State; O=Internet Widgits Pty Ltd; CN=localhost
*  start date: Feb  7 16:23:39 2024 GMT
*  expire date: Feb  6 16:23:39 2025 GMT
*  issuer: C=US; ST=Some-State; O=Internet Widgits Pty Ltd; CN=localhost
*  SSL certificate verify result: self-signed certificate (18), continuing anyway.
* TLSv1.2 (OUT), TLS header, Supplemental data (23):
> GET / HTTP/1.1
> Host: curlingfun:9090
> User-Agent: curl/7.81.0
> Accept: */*
>
* TLSv1.2 (IN), TLS header, Supplemental data (23):
* TLSv1.3 (IN), TLS handshake, Newsession Ticket (4):
* TLSv1.2 (IN), TLS header, Supplemental data (23):
* TLSv1.3 (IN), TLS handshake, Newsession Ticket (4):
* old SSL session ID is stale, removing
* TLSv1.2 (IN), TLS header, Supplemental data (23):
* Mark bundle as not supporting multiuse
< HTTP/1.1 200 OK
< Server: nginx/1.18.0 (Ubuntu)
< Date: Fri, 03 Jan 2025 16:20:58 GMT
< Content-Type: text/plain;charset=UTF-8
< Transfer-Encoding: chunked
< Connection: keep-alive
< Custom-Header: You have found the custom header!
<
You have successfully bypassed the self-signed certificate warning!
Subsequent requests will continue to require "--insecure", or "-k" for short.

If you need help, please remember to run "hint" for a hint!
* Connection #0 to host curlingfun left intact
alabaster@curlingfun:~$ curl  -k -v  "https://curlingfun:9090/"

[Curling Fun]> <XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX                         >
```

Think of it like sending secret scrolls through the



```
7) curl will modify your URL unless you tell it not to.  For example, use curl to retrieve the
following URL containing special characters: https://curlingfun:9090/../../etc/hacks

alabaster@curlingfun:~$ curl  -k -H "Stone: Granite"  "https://curlingfun:9090/"
You have successfully set a custom HTTP header!
alabaster@curlingfun:~$
```



```
Great work!

Once HHC grants your achievement, you may close this terminal.

alabaster@curlingfun:~$ curl -k --path-as-is  "https://curlingfun:9090/../../etc/hacks"
You have successfully utilized --path-as-is to send a raw path!
alabaster@curlingfun:~$
```